

## ABSTRACT

Aggregates and constructs made from pieces of recycled tires, and engineered for drainage and other construction purposes are provided. The present particle aggregates and constructs can be designed and manufactured with defined gradations and engineering properties to allow for the specifically desired engineering parameters such as permeability, compressibility, rigidity, compactability, density, and resistance to movement and other frictional characteristics. Embodiments of the invention can be created to have defined engineering properties that can be maintained for desired lengths of time, such as compressibility and permeability to the flow of gases or liquids. Thus, the present invention can have myriad embodiments, configurations and properties depending upon the exact engineering construction environment in which a particular embodiment will be used. Embodiments of the present invention advantageously can be used in place of earthen materials or in addition to earthen materials and can be used in conjunction with various construction materials like pipe and culverts. Whether adhered together, or positioned as loose aggregates, the present aggregate systems can form part of a greater subsurface system that provides reinforcement, separation, and drainage for a structure and thereby extends its useful life.

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